REMARKS

Claims 1-11, 13-16, 18-24, and 26-54 are pending in the present application. By this amendment, claims 1, 16, and 24 have been amended and claims 12, 17, and 25 have be canceled. Since the elements of claims 12, 17, and 25 are being incorporated into claims 1, 16, and 24, respectively, no new matter is added by the present amendments.

All of the pending claims stand rejected and reconsideration of the present rejections is requested in light of the remarks that follow.

Double Patenting Rejection

Claims 1-54 were rejected on the ground of nonstatutory, obviousness-type double patenting based on allegedly being unpatentable over claims 1-13 of U.S. Published Application No. US2005/0020219. Applicants respectfully transverse this rejection for the following reasons.

First, the double patenting rejection is improper, since it was not made provisional when tied to a published application. That is, a published application only contains inchoate "rights to exclude" since the application has not been granted. Thus, double patenting rejections based on applications, are merely provisional. That said, the cited published application did issue as U.S. Patent No. 7,116,957, and thus any double patenting analysis should have more properly been based on consideration of the claims of the issued patent, not the published application.

Notwithstanding, the allowed claims U.S. Patent 7,116,957 are not the same claims as claims 1-13 in the published application. Thus, no double patenting situation exists between claims 1-13 of US2005/0020219 and the present claims, since these claims, as published, were never allowed and the common Assignee therefore does not have a "right to exclude" based on those claims. Applicants submit that the subject matter of the allowed claims of U.S. Patent No. 7,116,957 should have been compared to the present claims to determine whether a double patenting situation exists (of which it is believed not to be applicable in this case). Accordingly, Applicants request withdrawal of the present double patenting rejection.

Rejections under §103(a)

Claims 1-8, 13-14, 16, 22-24, 32-25, 39, 43, 47, and 48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the article entitled "An Adaptive Channel Estimation Scheme for DS-CDMA Systems" authored by Oh et al. (hereinafter referred to as "Oh et al.") in view of Kubo et al. (U.S. Patent No. 6,249,682). Applicants respectfully traverse this rejection for the following reasons.

Concerning independent claim 1, this claims recites "determining one or more coefficients of the pilot filter based on the determined velocity of the wireless communication device and the noise power estimate [of at least one of the received signals]." Oh et al. does not teach or suggest these claimed elements. Specifically, although Oh et al. teaches selection of precalculated coefficients for a pilot filter based on a mobile speed estimate, the reference fails to teach or suggest selection based on a determined velocity as well as on a noise power estimate of at least one received signal. As may be seen in sections 3.2 through 3.4, and FIGs. 1 and 2 of Oh et al., a mobile speed estimator merely determines within which of a plurality a speed zones the mobile unit's speed currently falls. It is solely the estimated mobile speed zone output by the mobile speed estimator that is used to determine which precalculated and stored coefficients a are used by the pilot filter. No teaching or suggestion is given of estimating a noise power or using noise to determine the pilot filter coefficients.

It is noted that optimization of the precalculated and prestored pilot filter coefficients a of Oh et al. are a function of a pilot signal-to-interference ratio (PSIR) (See section 3.2 of Oh et al.). A signal to interference ratio (SIR), however, is not equivalent to a noise estimate as featured in claim 1 (i.e., noise and interference are two distinct measureable properties), nor even a signal-to-noise ratio (SNR).

Moreover, the PSIR in Oh et al. is used to precalculate optimal coefficients and Oh et al. does not teach utilizing a determined or estimated PSIR to actually select the coefficients, only the estimated mobile speed zone is used for that determination. Furthermore, although predetermined thresholds t_i for each speed zone i are disclosed as being related to PSIR (See e.g.,

section 3.4), these thresholds are used in speed zone determination only, as may be seen FIG. 2 and is discussed in section 4 of Oh et al.

It is also noted that claim the elements of canceled claim 12, which are now incorporated in claim 1, where rejected over the combination of Oh et al. in view of Corbett et al. (U.S. Patent No. 6,351,642). Corbett et al. does not further teach or suggest "determining one or more coefficients of the pilot filter based on the determined velocity of the wireless communication device and the noise power estimate [of at least one of the received signals]." Furthermore, the stated rejection only asserts that Oh et al. allegedly teaches these elements related to determining a noise power estimate, which is demonstrably false.

In light of the foregoing, Applicants submit that Oh et al. does not teach or suggest all of the features of claim 1 and the rejection should be withdrawn, accordingly. Additionally, independent claims 16 and 25 contain similar elements, which were, in part, incorporated from canceled claims 17, and 25, respectively, and are also believed to be allowable for at least the same reasons.

With respect to dependent claims 2-8, 13, and 14, which depend from claim 1, claims 22-24, which depend from claim 16, and claims 32-34, which depend from claim 24, these claims are believed to be allowable for at least the reasons above with respect to claims 1, 16, and 25, as well as on their merits.

Independent claims 35 and 39, at least recite "an infrastructure device configured to communicate with the at least one mobile wireless communication device, wherein the infrastructure device receives signals from the mobile wireless communication device and based on those signals determines pilot filter coefficients and transmits the coefficients to the mobile wireless communication device for use in configuring the pilot filter." Oh et al., in contrast, makes no mention or suggestion of communication between the infrastructure and a mobile wireless device to received signals from the mobile device to determine pilot filter coefficients and then transmit those coefficients to the mobile. Oh et al. is only concerned with selecting from precalculated coefficients within the mobile device itself. Moreover, Kubo et al. does not teach or suggest communication of pilot filter coefficients between an infrastructure and mobile wireless devices. Accordingly, Applicants respectfully submit that the cited references, either in

combination or separately, do not teach or suggest all of the claimed elements of claims 35 and 39.

Independent claim 43 features "an infrastructure device with a pilot filter configured to receive a signal transmitted from the mobile wireless communication device over a communication channel and to accept coefficients that adapt the response of the filter, wherein the infrastructure device receives signals from the mobile wireless communication device and, based on those signals, a set of coefficients that are provided to the pilot filter are determined." As mentioned above, neither Oh et al. or Kubo et al. teach or suggest the communication of any information or signals between an infrastructure and a mobile wireless device related to filter coefficients or their determination. Accordingly, Applicants submit that claim 43 is not taught or suggested by the cited prior art, either separately or in combination.

With respect to dependent claims 47-49, which depend from claim 43, these claims are believed to be allowable for at least the reasons above with respect to claim 43, as well as on their merits.

Claims 9, 20, and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the article entitled "An Adaptive Channel Estimation Scheme for DS-CDMA Systems" authored by Oh et al. (hereinafter referred to as "Oh et al.") in view of Yoshimura (U.S. Patent No. 6,668,172). Applicants respectfully traverse this rejection and submit that these claims are allowable at least due to their dependency on independent claims 1, 16, and 24, respectively, and also on their merits.

Claims 10-12, 15-19, 21, 24-29, 31, 36-38, 40-42, 44-46, and 49-54 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the article entitled "An Adaptive Channel Estimation Scheme for DS-CDMA Systems" authored by Oh et al. (hereinafter referred to as "Oh et al.") in view of Corbett et al. (U.S. Patent No. 6,352,642). Applicants respectfully traverse this rejection.

Regarding claims 12, 17, and 25, these claims have been canceled by this amendment and elements thereof incorporated into claims 1, 16, and 24, which were discussed above.

Furthermore, independent claim 24 has been also again been rejected in the present rejection, and is believed allowable at least for the same reasons presented above.

Concerning dependent claims 10, 11, 15, 18, 19, 21, 26-29, 31, 36-38, 40-42, 44-46, and 49-54, these claims are submitted to be allowable based on their dependencies on independent claims, as discussed above, as well as on their merits. Additionally, it is noted that these claims appear to have been alternately rejected since Kubo et al., which was used to reject the independent claims upon which these claims depend, is not referenced in this rejection. Nonetheless, Applicants submit that the Oh et al. and Corbett et al. do not teach or suggest the elements of claims 1, 16, 24, 35, 39, and 43, either considered separately or in combination.

Conclusion

In light of the amendments and remarks set forth above, Applicants respectfully submit that the application is in condition for allowance and request issuance of a Notice of Allowance in this case.

Applicant also petitions for a one month extension of time and the Commissioner is hereby authorized to charge any fees which may be required to Deposit Account No. 17-0026 in connection therewith.

Respectfully submitted,

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Ken Vu, Reg. No. 46,323
Phone: (858) 658-5106

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121
Telephone: (858) 845-4265
Facsimile: (858) 658-2502